

/MC

Rpt. 9

8 JUL 1957

Date of writing report 30th June 1957

Received London 10 JUL 1957

NEWCASTLE-ON-TYNE

Survey held at SOUTH SHIELDS

No. of visits 62

First date 27th Oct. 56

Last date 28th June 1957

No. 114465

# REPORT OF PERIODICAL SURVEYS & REPAIRS OF MACHINERY

No. in R.B. 62057 Name ~~XXX~~ S.S. ~~XXX~~ ESSO WANDSWORTH  
 Owners Esso Petroleum Co. Ltd. Managers Esso Petroleum Co. Ltd. Gross tons 4352 Date of build 1943  
 Engines made 1943 By Vulcan Iron Works Port of Registry LONDON  
 No. of Main Engines 2 No. of Screws 2 Type T 3 CY. 16" x 26" 43" x 27"  
 No. of Main Boilers 2 W.P. 180 lbs./sq.in.  
 No. of Aux./Donkey Boilers - W.P. -  
 Surveyed Afloat or in Dry Dock Afloat & in Dry Dock  
 Nature of Survey Class'n. & Special Survey.  
 Was Damage Report issued? - Int. Cert. Yes  
 Last Report (For Head Office only)

Records of Survey & Special Notations as per Register Book

Hull

Machinery

The condition of any of the following items is to be described as "good" only when the part has been examined, found or placed in good condition, and is considered to be acceptable until the due date of the next Periodical Examination. Where it is considered that re-examination or repairs should be effected before the due date of the next Periodical Examination a distinguishing mark thus † should be inserted against the item and the circumstances and action recommended described fully under "defects and repairs". At part or complete Special Surveys those items which are not applicable to the ship should be cancelled with a black line; this need not be done when the machinery is on a continuous survey basis. When any part has been subjected to pressure test this should be stated. Engine parts when referred to by numbers should be counted from forward.

DOCKING Propellers Good Wear Down of Stern Bushes P .040" S. .027" Oil Glands Stbd. Good Sea Connections -  
 Fastenings Good Has Screwshaft been drawn? Stbd. Only Date of Examination 13.12.56. Has Shaft been changed? No  
 Has Shaft now fitted been previously used? - Has Shaft now examined a continuous liner? Yes Approved oil gland? Yes

MAIN ENGINES (Recip. Steam or I.C.) PORT STARBOARD  
 1 Cyls., Covers, Pistons & Rods Good Good  
 2 Valves & Gears Good Good  
 3 Connecting Rods, Top Ends & Guides Good Good  
 4 Crankpins & Bearings Good Good  
 5 Journals & Bearings Good Good

### MAIN ENGINE DRIVEN AIR COMPRESSORS

6 Cyls., Covers, Pistons & Rods  
 7 Connecting Rods & Top Ends  
 8 Crankpins & Bearings  
 9 Journals & Bearings  
 10 Coolers & Safety Devices

### MAIN ENGINE DRIVEN SCAVENGE PUMPS

11 Cyls., Covers, Pistons & Rods  
 12 Connecting Rods & Top Ends  
 13 Crankpins & Bearings  
 14 Journals & Bearings  
 15 Levers

### SCAVENGE BLOWERS

### SUPERCHARGERS

### MAIN TURBINES

16 Casings, Rotors, Blading, Bearings & Thrusts

19 ~~EXHAUST SYSTEMS~~  
 20 ~~STEAM CONDENSERS~~  
 21 ~~STEAM TRAPS~~  
 22 ~~REDUCTION GEARBOX~~  
 23 THRUST BLOCKS, SHAFTS & BEARINGS Good Good  
 24 INTERMEDIATE SHAFTS & BEARINGS Good Good  
 25 HOLDING DOWN BOLTS & CHOCKS Good Good  
 26 CONDENSERS (MAIN & ) Good Good  
 27 ~~EXHAUST RELEASERS~~  
 28 ~~SB SUPERCHARGERS~~  
 29 STOP & MANOEUVRING VALVES Good Good  
 30 MAIN ENGINE DRIVEN PUMPS Good Good  
 31 ~~CRANKSHAFTS~~

Have Main Engines been tested working and manœuvring? Yes

### OPINION OF MACHINERY AND RECOMMENDATIONS

The Machinery of this Vessel, as now seen, is in good condition, eligible, in our opinion, to be Classed L.M.C. 6/57 with Notations "Starboard tailshaft seen (Oil Gland) 12/56," "Fitted for O.F. Flash Point Above 150° F." 2 SB Working Pressure 180 lbs./sq.in. F.D." and "Sps. 6/57."

Date of Committee FRIDAY 9 AUG 1957

Decision LMC

30m. 8.55. T. (MADE AND PRINTED IN ENGLAND.) TS CL (P) 8.56  
 ES } 6.57  
 SPS }  
 OF } (S) 12.54

W.T. Mathieson A. Ross R.H. Banks J. Hancock  
 Engineer Surveyor to Lloyd's Register of Shipping

W.T. MATHIESON, A. ROSS, R.H. BANKS & J. HANCOCK.

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If verification is required state where to be sent.



Essential Independent Pumps (Identify by position) Port & Starboard circulating pumps, 2 O.F. unit pumps, O.F. transfer Pump (Starboard), Ballast Pump, Port and Starboard feed pumps, general service pump - ALL GOOD, Rpt. 9a

Bilge, Ballast & Oil Fuel Suction Lines, Fittings & Controls Good  
 Have the remaining Piping Arrangements & Fittings in the machinery space been examined as considered necessary? Yes - Good

Feed & 2 O.F. Heaters... Hyd. Tested 360 lbs/sq.in. ALL GOOD

Evaporators Good  
 Steering Machinery Good  
 Windlass Good  
 Fire Extinguishing Arrangements Good

AUXILIARY ENGINES (Identify by position)  
 Forward & Aft Fan Engines (Steam) Good  
 Port Generator Engine (Steam) Good  
 Centre -ditto- Good  
 Starboard -ditto- Good  
 Diesel Emergency Fire Pump Good

PROPULSION	ELECTRICAL EQUIPMENT		AUXILIARY EQUIPMENT
	PORT	STARBOARD	
Generators			Generators & Governors Good
Exciters			Motors Good
Air Coolers			Switchboards & Fittings Good
Motors			Circuit Breakers Good
Air Coolers			Cables Good
Control Gear, Cables, etc.			Insulation Resistance Good
Insulation Resistance			Navigation Light Indicators Good
Insulating Oil Test			
Overspeed Governors			
Magnetic Couplings			
Air Gap			

BOILERS OPENED UP & EXAMINED (Identify by position and state latest date of internal examination of each boiler)  
 MAIN Both Good - Examined Internally  
 P: 24.6.57. S: 18.6.57.

Safety Valves Good  
 Mountings, Doors & Fastenings Good  
 Safety Valves Adjusted to 180 lbs./sq.in.  
 Boiler Securing Arrangements Good  
 Were Oil Burning System & Remote Controls examined working in accordance with Rules? Yes  
 Funnel Good

EXAMINATION & TESTING OF STEAM PIPES (State material)  
 Main 18.11.56. 360 lbs./sq.in.  
 Auxiliary (over 3 in. bore) Copper 360 lbs./sq.in.,  
 Were Copper Pipes annealed? Yes  
 Have Saturated Pipes in cylindrical boiler smoke boxes been tested? None fitted

PARTICULARS OF DEFECTS & REPAIRS, ETC. (Damage repairs should be detailed separate from wear and tear repairs; state what action has been taken regarding items which are subjects of class)

"WEAR & TEAR" REPAIRS - (MAIN ENGINES)

Port Engine - HP rod skimmed and Metallic packing renewed. L.P. guide shoes remetalled. Aft condenser door renewed. Starboard Engine - HP Rod skimmed and metallic packing renewed. L.P. guide shoes remetalled.

PORT GENERATOR ENGINE:- Cylinder bore skimmed. Piston renewed and Lockwood & Carlisle rings fitted. Piston valve, liner and valve rod renewed.

STARBOARD GENERATOR ENGINE:- Cylinder bore skimmed. Piston renewed and Lockwood & Carlisle rings fitted. Piston rod, piston valve and liner and valve rod renewed.

FORWARD FAN ENGINE:- Piston rod and piston renewed and Lockwood & Carlisle rings fitted.

Aft FAN ENGINE:- Piston rod and valve rod renewed. Piston renewed and Lockwood & Carlisle rings fitted.

PORT CIRCULATING PUMP:-

Piston rod and piston renewed and Lockwood & Carlisle rings fitted.

STARBOARD CIRCULATING PUMP:- Piston rod and piston renewed. Lockwood & Carlisle rings fitted.

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Machinery Survey for Classification

Survey fees	E.S.	£64.16
	M.B.S.	£20.00
	T.S.	£3.00
	ELECT.	£20.00
	REPAIR FEE	£70.00
Expenses...		£2.13
	TWO LATE ATTENDANCES	£8.80
	METALLURGICAL FEE (CREDIT TO LONDON OFFICE)	£10.10

Date when A/c rendered 5 JUL 1957

Port of NEWCASTLE-ON-TYNE.

Continuation of Report No. 114465 dated 28/6/57

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"WEAR & TEAR" REPAIRS CONT:-

O.F. TRANSFER PUMP:- Both steam and bucket rods renewed.  
 TOP O.F. UNIT PUMP:- Both steam rods renewed.  
 PORT FEED PUMP:- Cylinder skimmed up, and piston renewed. Piston rod skimmed and neck ring and gland rebushed.

WINDLASS:- Port piston rod renewed and neck ring and gland rebushed. Both piston valves and port valve rod renewed. 2 pinion shaft bearings remetalled. 4 Intermediate shaft bearings remetalled. 1 Bearing keep renewed, Port Gypsy shaft.

EVAPORATOR:- Copper coils annealed and hydraulically tested to 360 lbs./sq.in.  
 EQUIPMENT ADDED:- A "Victor" oily water separator, works No: 2140 stamped "LLOYD'S TEST Shell 40 lbs./sq.in. Coils 400 lbs./sq.in. D 49993 19.12.56." was fitted in Port tween deck space.

PORT BOILER:-

The boiler shell plate was found fractured on the centre line of the lower half, the fracture extending fore and aft from A rivet hole to the drain plug opening. Rivets were removed from the lower part of the front circumferential seam and the holes magnetically tested. The tests revealed fractures in the holes examined in both shell and end plates. Samples of the plate were subjected to tensile and bend tests and chemical analysis. These tests revealed that the material was suitable for the purpose intended, Microscopical examination of samples of the defective material carried out by the Research Station at Crawley, and by King's College, Newcastle, showed that the cracking was intergranular.

Selected rivets were drilled out of the front and back circumferential seams, the longitudinal seams, boiler feet, front and back combustion chamber seams and at furnace flanges. All holes were ground and crack detected. Cracks were found at front end of both shell plates and at lower part of front plate flange. The top and bottom shell plates were renewed. The defective parts of the front plate were cut out and two pieces of plate, each 3'0" long were welded in. As the rivet holes in the front plate were not drilled normal to the flange, these holes had to be opened out to 1.1/2" diameter. 7 mounting pads were found cracked and renewed. The centre furnace was renewed. The lower parts of the Port and Starboard furnace mouths were cropped to give access to the end plate. Patches were welded in. All combustion chamber shell side stays were renewed. These were screwed, protruding and caulked on outside of shell plate and welded inside combustion chamber. The manhole door stays were renewed. All manhole doors and dogs (4) were renewed, for which a certificate is attached. One main stay was renewed. All boiler feet were re-riveted. All feet had previously been securely fastened down. Now only one foot is fast and the remaining 3 are free to move horizontally.

On completion of repairs the boiler was examined under hydraulic test of 250 lbs. per square inch and found satisfactory. The boiler was stamped "LLOYD'S TEST 250 lbs. NWC. 28.5.57. A.T."

STARBOARD BOILER:-

Because of the defects found in the Port Boiler, selected rivets were removed from the

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"WEAR & TEAR" REPAIRS CONT:- STARBOARD BOILER CONT:-

front and back circumferential seams, both longitudinal seams, furnace mouths and saddles and combustion chamber front and back seams. The rivet holes were ground up and crack detected. Fractures were found in the lower shell plate at the front end, the inner and outer inboard straps, the top shell plate by way of the straps, and the lower flange of the front end plate.

Approximately 14" was cropped off the inboard butt of the top shell plate. A new lower shell plate was fitted, being 14" longer than the original plate. The inner and outer butt straps were renewed. A plan of this Repair is attached. 48 combustion chamber side stays were renewed, screwed protruding through shell plate and caulked, and welded in combustion chamber. The lower part of the front plate flange was cropped in line with the edge of the shell plate and 28'0" of new flange welded in. 3 Boiler mounting pads were found cracked and renewed. All boiler feet were re-riveted. One foot was made fast and the other 3 arranged to move freely horizontally. All (4) manhole doors renewed (Certificate attached).

On completion of repairs the boiler was examined under hydraulic pressure of 250 lbs. per square inch and found satisfactory. It was stamped "LLOYD'S TEST 250 LBS NWC 29.5.57. A.T. "

The safety valves of both boilers were subsequently adjusted under steam at 180 lbs. per square inch and satisfactory accumulation of pressure tests carried out.

ELECTRICAL EQUIPMENT:-

2 - 10 K.W. and 1 - 15 K.W. generators and engine room auxiliary motors overhauled and repaired. Switchboards cables and fittings repaired where necessary and altered to classification requirements and in accordance with L.O. letter dated the 6th September 1956.

ADDITIONS AND ALTERATIONS:-

Existing DG installation was removed at this time and new installation fitted in accordance with Admiralty plan and specifications, main coil run in position previously used by DG coil. Control panel in existing position on main switchboard. Echo Sounding Equipment (Marconi) fitted in dry tank in pump room forward.

On completion the above installation seen under running conditions, generators tested for governing and compounding, all circuits megger tested. Degaussing equipment tested by Admiralty Representative and found to be satisfactory.

*W.T. Mathieson A. Ross R.H. Banks J. Hancock*  
 W.T. MATHIESON. A. ROSS. R.H. BANKS & J. HANCOCK.